

# Using Operand Factorization to Compress DSP Programs (1999) [\(Make Corrections\)](#)

Ricardo Pannain, Paulo Centoducatte, Guido Araújo

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**Abstract:** We propose a method for compressing programs running on embedded DSPs. Program expression trees are decomposed into opcode and operand sequences called patterns. We show that DSP program patterns have exponential frequency distributions. Based on that, we encode patterns using a mix of variable-length and xed-length codewords. A decompression engine is proposed, which converts patterns into uncompressed instruction sequences. The experimental results reveal an average compression ratio ... [\(Update\)](#)

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